BLUE WATERS

SUSTAINED PETASCALE COMPUTING

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National Petascale Computing Facility

SYSTEMATIC APPROACH FOR UNIVERSIAL COMMISSIONING FOR LIQUID-COOLED SYSTEMS

THOMAS DURBIN, P.E., LEED AP

NCSA

NSF

GREAT LAKES CONSORTIUM FOR PETASCALE COMPUTATION

CRAY

ABSTRACT

- A COLLABORATIVE EFFORT TO PROVIDE GUIDANCE AND METHODOLOGY FOR COMMISSIONING LIQUID-COOLED HPC SOLUTIONS
- COMPREHENSIVE, ADAPTABLE APPROACH FOR COMMISSIONING LIQUID-COOLED HPC SOLUTIONS FOR INCORPORATION INTO UNIVERSAL COMMISSIONING PLANS

OUTLINE

- 1. SYSTEM DESIGN DESCRIPTION
- 2. COMMISSIONING PLAN
- 3. SYSTEM ACCEPTANCE TEST PROCEDURE
- 4. LESSONS LEARNED

SYSTEM DESIGN DESCRIPTION (SECTION 1)

- AN OVERVIEW OF WHAT THE SYSTEM IS DESIGNED TO DELIVER
- DESIGN PARAMETERS
- CONTROLS CHARACTERISTICS
- PERFORMANCE REQUIREMENTS

COMMISSIONING PLAN (SECTION 2)

- PROVIDES THE TESTING PLAN FOR PROVING THE SYSTEM PERFORMS TO DESIGN SPECIFICATIONS
- ESTABLISHES ROLES, RESPONSIBILITIES, MANNER OF TESTING THAT BECOMES BASIS FOR DEVELOPING THE SYSTEM ACCEPTANCE TEST PROCEDURE

SYSTEM ACCEPTANCE TEST PROCEDURE (SECTION 3)

- LIQUID SYSTEM FLUSHING
- WATER CHEMISTRY VERIFICATION
- SAFETY INTERLOCKS AND ALARMS
- FULL FLUID FLOW TESTING
- SIMULATE DESIGN LOAD AND TEST
- CONTROLS SEQUENCING, COORDINATION
- REFERENCE ASHRAE WHERE NEEDED

LESSONS LEARNED (SECTION 4)

- COVERED IN WORKSHOP
- EXAMPLES
- SIMULATE DESIGN LOAD
- BALANCE FLOW FROM COOLING SOURCES

Your feedback is important

- http://eehpcwg.lbl.gov/documents
- “Liquid Cooling Commissioning.docx”

QUESTIONS

THOMAS DURBIN, P.E., LEED AP
217-333-4024
tedurbin@illinois.edu